

AMENDMENTS TO THE DRAWINGS

Fig. 2 has been amended to replace the reference numeral “209” pointing to the oval having text “RETURN CLEAN KEY” with “207” to provide consistency with the written description. No new matter has been added.

REMARKS

In the Office Action dated September 27, 2006, the Specification, claims, Abstract, and drawings were objected to; claims 2-4 and 22 were rejected under 35 U.S.C. § 112, ¶ 1; claims 1-14, 16-18, and 21-23 were rejected under § 112, ¶ 2; claims 1-8 were rejected under § 101; claims 1, 5, 7, 8, and 23 were rejected under § 102 over U.S. Patent No. 5,819,291 (Haimowitz); claim 6 was rejected under § 103 over Haimowitz in view of U.S. Patent No. 5,806,058 (Mori); claims 9-14 were rejected under § 103 over Haimowitz in view of U.S. Patent Application Publication No. 2002/0069195 (Commons) and U.S. Patent No. 5,276,616 (Kuga); claims 15, 18, 19, and 21 were rejected under § 103 over Haimowitz in view of Commons; claims 16 and 17 were rejected under § 103 over Haimowitz in view of Commons and Kuga; and claim 20 was rejected under § 103 over Haimowitz in view of Commons, Kuga, and U.S. Patent No. 6,070,164 (Vagnozzi).

Appln. Serial No. 10/733,750
Amendment Dated December 27, 2006
Reply to Office Action Mailed September 27, 2006

DRAWING OBJECTION

Fig. 2 has been amended to address the drawing objection.

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OBJECTION TO THE SPECIFICATION

The Abstract, title, and written description have been amended to address the objections raised in the Office Action.

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CLAIM OBJECTIONS & REJECTIONS UNDER 35 U.S.C. § 112, ¶¶ 1 AND 2

The claims have been amended to address the § 112 rejections and claim objections.

REJECTION UNDER 35 U.S.C. § 101

Independent claim 1 has been amended to address the § 101 rejection. Therefore, withdrawal of the § 101 rejection is respectfully requested.

REJECTIONS UNDER 35 U.S.C. §§ 102 AND 103

Independent claim 1 was rejected as being anticipated by Haimowitz. Claim 1 has been amended to recite that the heuristic-based routines match newly received data records to the key records in the persistent table, and the heuristic-based routines to iteratively *clean* the newly received data records *by modifying the newly received data records* in response to no match occurring between the received data records and the key records in the persistent table.

Haimowitz is concerned about duplication of customer records in a large business database. Haimowitz, 1:11-12. Therefore, Haimowitz proposes a matcher that receives new records and uses a hash key to select a set of candidates from existing records in the database. Haimowitz, 3:13-17. The matching operation performed by Haimowitz creates a list of potential matches. Haimowitz, 3:21-22. The matcher makes a decision whether to create a new customer record in the database, update an existing record in the database, or save the new data in a pending file, based on the matching. Haimowitz, 3:25-29.

However, Haimowitz does not disclose the use of any heuristic-based routine to iteratively *clean* newly received data records by modifying the newly received data records in response to no match occurring between the received data records and the key records in the persistent table. In view of the foregoing, it is respectfully submitted that independent claim 1 is not anticipated by Haimowitz.

Independent claim 23 is also not anticipated by Haimowitz. Claim 23 recites comparing the dirty data record to a tabulation of crude keys that each has a pointer to an associated one of clean data files in a database, assigning the dirty data record to one of the clean data files if a match is found based on the comparing, and *cleaning* the dirty data record in response to determining that no match is present based on the comparing, and *comparing the cleaned* dirty data record to the tabulation. The cleaning of a dirty data record and the subsequent comparing of the cleaned dirty data record to the tabulation is clearly not disclosed by Haimowitz.

In view of the foregoing, independent claims 1 and 23, and their dependent claims, are allowable over Haimowitz.

Independent claim 9 was rejected as being obvious over Haimowitz, Commons, and Kuga. It is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 9 for at least the following reasons: (1) no motivation or

suggestion existed to combine the references; and (2) the hypothetical combination of the references does not teach or suggest all elements of the claim. *See* M.P.E.P. § 2143 (8th ed., Rev. 5), at 2100-126.

The Office Action conceded that Haimowitz does not disclose the following task of claim 9: if the match does not occur, iteratively cleaning the input data record until at least a near-match between the cleaned input data record and at least one of the indexing records is obtained, and assigning the cleaned input data record to the one of the cleaned data files associated with the near-matched indexing record. 9/27/2006 Office Action at 16. The Office Action also conceded that Haimowitz does not disclose the following element of claim 9: upon a near match, adding the cleaned input data record as a new indexing record for the associated one of the clean data files, and upon no match, adding the cleaned input data record as a new clean data file with an associated indexing record therefor. *Id.* at 16-17. The Office Action cited Commons as disclosing the first element identified above as missing from Haimowitz, and the Office Action identified Kuga as disclosing the second element identified above as missing from Haimowitz. *Id.* at 17.

It is respectfully submitted that the Office Action erroneously stated that Commons discloses or suggests iteratively cleaning an input data record when a match does not occur. The Office Action cited ¶ [0060] of Commons, at lines 1-3, as teaching the iterative cleaning act. The cited passage of Commons refers to the situation where DVD information is not matched to information contained in a database. As described by Commons, if it is determined that no match is found between DVD information and information in a database, then a search is repeated with progressively less specific information. In Commons, the matching of DVD information to information in a database starts with a unique search key, and if no match is found, a non-unique search key is used. However, the change from a unique search key to a non-unique search key to match input information to information in a database does not constitute *cleaning* the input data record. Cleaning of an input data record implies that some modification of the input data record occurs to fix some aspect of the input data record, such as to remove white space, illegal characters, and so forth. *See* Specification, ¶ [0013], lines 8-11. Therefore, because of the defective application of Commons to the claim elements, it is respectfully submitted that the obviousness rejection is defective, since the hypothetical

combination of Haimowitz, Commons, and Kuga does not teach or suggest at least the element of iteratively cleaning the input data record if a match does not occur.

Also, contrary to the assertion by the Office Action, Kuga fails to teach or suggest adding a cleaned input data record as a new indexing record for an associated one of the clean data files upon occurrence of a near match. The Office Action cited column 13, lines 26-45, of Kuga. The cited passage of Kuga refers to generating an index from incoming text when a text portion from the incoming text does not match an exact entry in a dictionary, but matches a variant that is found in the dictionary. There is no suggestion by Kuga of adding a *cleaned* input data record as a new indexing record for the associated one of clean data files. This is a further reason that the hypothetical combination of Haimowitz, Commons, and Kuga does not teach or suggest all elements of claim 9.

Also, there existed no motivation or suggestion to combine the teachings of Haimowitz, Commons, and Kuga. Haimowitz relates to matching new records to existing records in a database to avoid duplication. Commons refers to iteratively searching a DVD database by starting with a unique search key to determine whether the unique search key matches information in the database. If a match does not occur, then Commons teaches that a non-unique search key is used. This teaching in Commons regarding matching DVD information to records starting with unique search keys and proceeding to non-unique search keys is unrelated to the teachings of Haimowitz. Haimowitz is concerned with de-duplication; therefore, there would have been no motivation to incorporate a technique that uses a non-unique search key, as taught by Commons, into Haimowitz, as that would defeat the intended purpose of Haimowitz, namely identifying and avoiding duplicate records. Also, Kuga relates to matching an input text with variants that are found in a dictionary; again, a person of ordinary skill in the art would not have been motivated to apply the technique of Kuga for the purpose of matching records to existing records in a database to avoid duplication, as taught by Haimowitz.

In view of the foregoing, it is respectfully submitted that the *prima facie* case of obviousness is further defective for the additional reason that no motivation or suggestion existed to combine the references.

Independent claim 15 was rejected as being obvious over Haimowitz and Commons. In view of the discussion above, it is respectfully submitted that no motivation or suggestion existed to combine the teachings of Haimowitz and Commons.

Moreover, Commons does not disclose or suggest iterative *cleaning* of input data records upon a no-match return and the storing of the iteratively-generated respective clean data record, nor the re-comparing of the iteratively-generated respective clean data record to the set of crude keys. Therefore, the hypothetical combination of Haimowitz and Commons also does not teach or suggest all elements of the claim.

Dependent claims are allowable for at least the same reasons as corresponding independent claims.

Allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 08-2025 (200308713-1).

Respectfully submitted,

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